

10/771,720

1-29. (CANCELED)

30. (CURRENTLY AMENDED) A hydrodynamic torque converter, comprising:

- a clutch (3) arranged between a pump impeller wheel (2) and a drive mechanism;
- a turbine rotor (7) forming a drive output,
- a first speed sensor detecting the speed of the turbine rotor (7);
- a second speed sensor detecting the speed of the pump impeller wheel;
- an electronic control unit (2) communicating with the first and second speed sensors to receive the detected speeds of the pump impeller wheel and turbine rotor (7);
- a performance matrix containing characteristic hydrodynamic torque converter values of the torque converter is stored in the electronic control unit, with reference to which, using the detected speed of the pump impeller wheel (2) and the detected speed of the turbine rotor (7), the electronic control unit determines the torque of the turbine rotor (7); and
- wherein the pump impeller wheel (2) has an inner axial extension (11) axially depending from the pump impeller wheel (2), the axial extension (11) having an axial end defining cams enabling the rotation speed of the pump impeller wheel (2) to be detected, and the cams are integrally formed arranged on the axial end of the inner axial extension flange parallel to a rotation axis of the torque converter.

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